



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

Date: 8/3/2017

**CLIENT:** Consolidated Analytical Systems  
**Project:** S.H. Bell-Chicago, IL  
**Lab Order:** S1707420

**CASE NARRATIVE**  
**Report ID:** S1707420001

Samples 527.169 S4HV1-071217-R, and 527.170 S4HV2-071517-R were received on July 25, 2017.

All samples were received and analyzed within the EPA recommended holding times, except those noted below in this case narrative. Samples were analyzed using the methods outlined in the following references:

"Standard Methods For The Examination of Water and Wastewater", approved method versions  
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition  
40 CFR Parts 136 and 141  
40 CFR Part 50, Appendices B, J, L, and O  
Methods indicated in the Methods Update Rule published in the Federal Register Friday, May 18, 2012  
ASTM approved and recognized standards

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Reviewed by:

A handwritten signature in cursive script that reads 'John M. Jacobs'.

John Jacobs, Project Manager



Inter-Mountain Labs

Your Environmental Monitoring Partner

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**Sample Analysis Report****CLIENT:** Consolidated Analytical Systems

201 S. Miami Ave

Cleves, OH 45002

**Date Reported:** 8/3/2017**Report ID:** S1707420001**Client Sample ID:** 527.169 S4HV1-071217-R**Project:** S.H. Bell-Chicago, IL**Matrix:** airfilter**COC ID:** WEB 10126**Collection Date:** 7/12/2017**Date Received:** 7/25/2017 10:30:00 AM**Lab ID:** S1707420-001**Work Order:** S1707420

Analyses	Result	RL	MDL	Qual	Units	Method	Date Analyzed/Init
<b>Field</b>							
Actual Volume	1670				m <sup>3</sup>	Field	07/12/2017 000
<b>IO-3.5 TSP</b>							
Arsenic	1.74	5	0.628	J	µg/Filter	IO-3.5	07/31/2017 1525 MS
Cadmium	0.67	5	0.19	J	µg/Filter	IO-3.5	07/31/2017 1525 MS
Chromium	52	5	0.165		µg/Filter	IO-3.5	07/31/2017 1525 MS
Lead	13	5	0.00999		µg/Filter	IO-3.5	07/31/2017 1525 MS
Manganese	1830	5	0.0535		µg/Filter	IO-3.5	07/31/2017 1525 MS
Nickel	3.22	5	0.16	J	µg/Filter	IO-3.5	07/31/2017 1525 MS
Vanadium	1.87	5	0.388	J	µg/Filter	IO-3.5	07/31/2017 1525 MS
<b>Filter Metals Concentration</b>							
Arsenic	1.04	2.99	0.376	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Cadmium	0.403	2.99	0.114	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Chromium	30.8	2.99	0.0988		ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Lead	0.00750	0.00299	0.00000598		µg/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Manganese	1100	2.99	0.032		ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Nickel	1.93	2.99	0.0958	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Vanadium	1.12	2.99	0.232	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ

**These results apply only to the samples tested.**

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- L Analyzed by another laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

**RL - Reporting Limit**

- C Calculated Value
- G Analyzed at IML Gillette laboratory
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL or is less than LCL
- O Outside the Range of Dilutions
- X Matrix Effect

Reviewed by:

John Jacobs, Project Manager



Inter-Mountain Labs

Your Environmental Monitoring Partner

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**Sample Analysis Report****CLIENT:** Consolidated Analytical Systems

201 S. Miami Ave

Cleves, OH 45002

**Date Reported:** 8/3/2017**Report ID:** S1707420001**Client Sample ID:** 527.170 S4HV2-071517-R**Project:** S.H. Bell-Chicago, IL**Matrix:** airfilter**COC ID:** WEB 10126**Collection Date:** 7/15/2017**Date Received:** 7/25/2017 10:30:00 AM**Lab ID:** S1707420-002**Work Order:** S1707420

Analyses	Result	RL	MDL	Qual	Units	Method	Date Analyzed/Init
<b>Field</b>							
Actual Volume	1655				m <sup>3</sup>	Field	07/15/2017 000
<b>IO-3.5 TSP</b>							
Arsenic	2.66	5	0.628	J	µg/Filter	IO-3.5	07/31/2017 1536 MS
Cadmium	0.22	5	0.19	J	µg/Filter	IO-3.5	07/31/2017 1536 MS
Chromium	52	5	0.165		µg/Filter	IO-3.5	07/31/2017 1536 MS
Lead	7	5	0.00999		µg/Filter	IO-3.5	07/31/2017 1536 MS
Manganese	112	5	0.0535		µg/Filter	IO-3.5	07/31/2017 1536 MS
Nickel	1.00	5	0.16	J	µg/Filter	IO-3.5	07/31/2017 1536 MS
Vanadium	0.843	5	0.388	J	µg/Filter	IO-3.5	07/31/2017 1536 MS
<b>Filter Metals Concentration</b>							
Arsenic	1.60	3.02	0.379	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Cadmium	0.133	3.02	0.115	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Chromium	31.4	3.02	0.0997		ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Lead	0.00425	0.00302	0.0000604		µg/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Manganese	68.0	3.02	0.0323		ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Nickel	0.600	3.02	0.0967	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ
Vanadium	0.509	3.02	0.234	J	ng/m <sup>3</sup>	IO-3.5	08/03/2017 1416 JJ

**These results apply only to the samples tested.**

**Qualifiers:**

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- H Holding times for preparation or analysis exceeded
- L Analyzed by another laboratory
- ND Not Detected at the Reporting Limit
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**RL - Reporting Limit**

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- O Outside the Range of Dilutions
- X Matrix Effect

Reviewed by:

John Jacobs, Project Manager



**Inter-Mountain Labs**  
Sheridan, WY and Gillette, WY

**- CHAIN OF CUSTODY RECORD -**

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*All shaded fields must be completed.*

*This is a legal document; any misrepresentation may be construed as fraud.*

#WEB **10126**

Client Name <b>Consolidated Analytical Systems (CAS)</b>		Project Identification S.H. Bell - Chicago, IL		Sampler (Signature/Attestation of Authenticity) <i>[Signature]</i>		Telephone # 613-542-1200																					
Report Address 201 S. Miami Avenue Cleveland, OH 45002		Contact Name <b>Meredith Cloran</b>		<b>ANALYSES / PARAMETERS</b> <table border="1"> <tr> <th>PM10 Gravimetric A</th> <th>IO-3.1 for air filters</th> <th>IO-3.5 Metals on air</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				PM10 Gravimetric A	IO-3.1 for air filters	IO-3.5 Metals on air																	
PM10 Gravimetric A	IO-3.1 for air filters	IO-3.5 Metals on air																									
Invoice Address 201 S. Miami Avenue Cleveland, OH 45002		Email mcloran@cas-en.com		Phone 513-542-1200																							
Purchase Order # 17-2507		Quote # CAS1702231																									
ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME	SAMPLE IDENTIFICATION	Matrix	# of Containers	REMARKS																				
1	51707420-5	7/12/17		S4HV1-071217-R	FT	1	See Field envelope																				
2	002	7/15/17		S4HV2-071517-R	FT	1	See Field envelope																				
3				MMDDYY																							
4																											
5																											
6				Date Mailed = 7/18/17																							
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LAB COMMENTS		Relinquished By (Signature/Printed)		DATE	TIME	Received By (Signature/Printed)																					
		<i>[Signature]</i> Steve Kross		7/18/17	9:30a	<i>[Signature]</i> Mary Hanning - IML																					
		<i>[Signature]</i> Mary Hanning - IML		7/27/17	11:22	<i>[Signature]</i> Kathy Bap																					
SHIPPING INFO		MATRIX CODES		TURN AROUND TIMES		COMPLIANCE INFORMATION																					
<input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Hand Carried <input type="checkbox"/> Other		Water WT Soil SL Solid SD Filter FT Other OT		Check desired service <input checked="" type="checkbox"/> Standard turnaround <input type="checkbox"/> RUSH - 5 Working Days <input type="checkbox"/> URGENT - < 2 Working Days <i>Rush &amp; Urgent Surcharges will be applied</i>		Compliance Monitoring ? Y Program (SDWA, NPDES,...) CAA 114a PWSID / Permit # Chlorinated? N Sample Disposal: Lab x Client																					
						ADDITIONAL REMARKS Collected: 7/17/17 Filter identification(mmddyy) S4HV1-071217-R Filter number(---) 527.169 S4HV2-071517-R 527.170																					



Survey Meter # Model 2241-2; SN 182115

pH strip lot # HC54770

Thermometer SN# 27130475

**Condition Upon Receipt (Attach to COC)****Sample Receipt**1 Number of ice chests/packages received: OTC ROI? Yes No

Note as "OTC" if samples are received over the counter, unpackaged

2 Temperature of cooler/samples. (If more than 8 coolers, please write on back)

 Temps Observed (°C): 

--	--	--	--	--	--	--	--

  
 Temps Corrected (°C): 

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Acceptable is: 0.1° to 10°C for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to cool following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at receipt.

**Client contact for temperatures outside method criteria must be documented below.**

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No N/A  
 4 COC Number (If applicable): WCB 10126  
 5 Do the number of bottles agree with the COC? Yes No N/A  
 6 Were the samples received intact? (no broken bottles, leaks, etc.) Yes No N/A  
 7 Were the sample custody seals intact? Yes No N/A  
 8 Is the COC properly completed, legible, and signed? Yes No

**Sample Verification, Labeling & Distribution**

1 Were all requested analyses understood and appropriate? Yes No  
 2 Did the bottle labels correspond with the COC information? Yes No  
 3 Samples collected in method-prescribed containers? Yes No

**Sample Preservation:****pH at Receipt:****Final pH (if added in lab):****Preservative/Lot#****Date/Time Added:**

\_\_\_\_ Total Metals

\_\_\_\_ Total Metals

HNO<sub>3</sub> \_\_\_\_\_

\_\_\_\_ Diss Metals

\_\_\_\_ Diss Metals

Filtered and preserved in metals

Filtered and preserved in metals

\_\_\_\_ Nutrient

\_\_\_\_ Nutrient

H<sub>2</sub>SO<sub>4</sub> \_\_\_\_\_

\_\_\_\_ Cyanide

\_\_\_\_ Cyanide

NaOH \_\_\_\_\_

\_\_\_\_ Sulfide

\_\_\_\_ Sulfide

ZnAcet \_\_\_\_\_

\_\_\_\_ Phenol

\_\_\_\_ Phenol

H<sub>2</sub>SO<sub>4</sub> \_\_\_\_\_

5 VOA vials have <6mm headspace? Yes No N/A  
 6 Were all analyses within holding time at the time of receipt? Yes No  
 7 Specially requested detection limits (RLs) assigned? Yes No N/A  
 8 Have rush or project due dates been checked and accepted? Yes No N/A  
 9 Do samples require subcontracted analyses? Yes No

If "Yes", which type of subcontracting is required?

General

Customer-Specified

Certified

Sample Receipt, Verification, Login, Labeling & Distribution completed by (initials): KBSet ID: 51707420**Discrepancy Documentation (use back of sheet for notes on discrepancies)****Any items listed above with a response of "No" or do not meet specifications must be resolved.**

Person Contacted: \_\_\_\_\_ Method of Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

Initiated By: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Email: \_\_\_\_\_

Problem: \_\_\_\_\_

Resolution: \_\_\_\_\_